

**IN THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF OKLAHOMA**

**JB and JEB, minor children, by and through )  
their natural parents and guardians, JIMMY )  
DALE PALMER and TERESA PALMER )**

**Plaintiffs, )**

**v. )**

**ASARCO INCORPORATED, et al. )**

**Defendants/Third Party )  
Plaintiffs, )**

**v. )**

**UNITED STATES OF AMERICA, et al. )**

**Third Party )  
Defendants. )**

**Case No. 03-CV-498-CVE-PJC  
BASE FILE**

**Moss           03-CV-565-CVE-PJC  
South         03-CV-566-CVE-PJC  
Sargent       03-CV-567-CVE-PJC  
Nowlin        03-CV-569-CVE-PJC**

**DEFENDANTS' MOTION TO EXCLUDE PORTIONS OF THE EXPERT TESTIMONY  
OF THOMAS H. MAYOR, PH. D. AND BRIEF IN SUPPORT THEREOF**

Defendants respectfully move to exclude certain of the opinions of Thomas H. Mayor, Ph.D., an economics expert whom Plaintiffs have designated to testify as to the present value of alleged lost future earnings for the plaintiffs. Portions of Dr. Mayor's conclusions, as set forth in a report dated September 4, 2004 (hereinafter "Mayor Rep.") (Ex. A) and in deposition testimony dated March 22, 2005 (hereinafter "Mayor Dep.") (Ex. B), fail to meet the standards of admissibility for expert opinion testimony set forth in FED. R. EVID. 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). Dr. Mayor's conclusions and opinions are based on adjusting plaintiffs' annual lost earning capacity by the difference between inflationary wage growth and the interest that can be earned off safe investments - the net discount rate - to the present value of the lost earnings. However, in adjusting the lost future

earnings to present value, Dr. Mayor (1) relies on a time period that is not representative; and (2) improperly applies a negative net discount rate to determine present value. The conclusions based on this negative net discount rate are scientifically unreliable, and therefore he should not be allowed to give expert testimony as to those conclusions.

### **BACKGROUND**

These consolidated personal injury cases involve allegations that dust containing lead has blown off chat piles and dry tailings ponds in Picher and Cardin, Oklahoma, that the dust has contaminated the soil, and that the minor plaintiffs have been exposed to lead from the contaminated soil. Each plaintiff claims to suffer from cognitive deficits, including a loss of IQ points and behavioral and attention problems, as a result of lead exposure.

Plaintiffs submitted a report on behalf of a vocational rehabilitation expert, Dr. Carl E. Hansen, opining on the plaintiffs' vocational projections and lost earning capacity as a result of plaintiffs' alleged academic difficulties due to alleged lead exposure. *See* Hansen Rep., Ex. C. Dr. Hansen relied on the neuropsychological reports of Drs. Bonny J. Forrest and Jeanette Wasserstein, school records, parental education and vocational status, demographics of Picher, OK, and the local labor market to come to his opinions. *Id.* at 1. Dr. Hansen projected the loss of earning capacity for each plaintiff fell within an average range of \$11,976 to \$13,714 per year. *Id.* at 3; Mayor Rep. at 1.

Dr. Mayor in turn, relied on Dr. Hansen's projections of lost earnings to arrive at his opinions on the present value of the lost earnings. Mayor Dep. at 18:3-19:15. As described in Dr. Mayor's Expert Report, his methodology for determining the present value of future lost earnings involved taking the average of the loss of earnings range proposed by Dr. Hansen, spreading the averaged annual loss out according to charts predicting the plaintiffs' future years of work, and discounting the income stream to a present lump sum value. Mayor Rep. at 1. In

short, Dr. Mayor's task was very narrow, he only had to rely on Dr. Hansen's opinions and "put a present value on the opinions of Dr. Carl Hansen."<sup>1</sup> Mayor Dep. at 10:3-5. According to Dr. Mayor, the combined losses of future earnings for the seven plaintiffs have a present value range of \$5,036,943 to \$3,009,667. Mayor Rep. at 1; Table A. In reaching the present value range, Dr. Mayor took the mid-point of Dr. Hansen's proposed lost earnings, added a 16% allowance for fringe benefits, and concluded that in today's dollars, each plaintiff's annual loss of earnings was \$14,900. Mayor Rep. at 1. Dr. Mayor then adjusted the \$14,900 annual lost future earnings to present value by estimating future wage growth and the interest on safe investments such as on U.S. Treasury bills. *Id.* In adjusting the lost earnings to present value, Dr. Mayor used two historical time periods of wage growth and interest rates to determine a range of present values. *Id.* at 1-2. One end of the range was based on the interest rates and rates of wage growth since 1970, which resulted in a net discount of one percent to determine present value, because the interest rates on safe investments were approximately one percent higher than the annual wage growth. *Id.*, Table A; Mayor Dep. at 81:8-15. Applying this methodology, Dr. Mayor opined the combined present value of plaintiffs' earning losses was \$3,009,667. Mayor Rep. at 1. Defendants do not challenge this conclusion as a matter of law.

For the other end of the present value range, Dr. Mayor looked at wage growth and interest rates since 1947, which encompassed years when the interest rates on safe investments were actually one percent less than the rate of wage growth. Mayor Rep. at 1-2, Table A, Tables 1-7; Mayor Dep. at 75:22-76:11. For this time period, Dr. Mayor concluded the present value range was \$5,036,943, based on his applying a negative net discount rate of minus one percent to the annual earning loss per plaintiff. Mayor Rep. at 1, Table A. It is this

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<sup>1</sup> Dr. Mayor's conclusions were dependant on the accuracy of Dr. Hansen's opinions, and if Dr. Hansen's opinions change in anyway it would affect Dr. Mayor's opinions. Mayor Dep. at 10:5-7.

\$5,036,943 present value and any testimony concerning that figure that should be excluded, as the facts underlying the value are unsupported and the use of a negative discount rate yields scientifically unreliable results.

In adjusting the lost future earnings to the present values that underlie his conclusions, Dr. Mayor committed two serious errors which render his opinions unreliable. First, Dr. Mayor relies on a time period when wage growth and interest rates are not representative; and using the non-representative wage growth and interest rates, he improperly applies a negative net discount rate. Second, in coming to his conclusions, Dr. Mayor relies on a methodology that is scientifically unreliable. As a result of these errors, Dr. Mayor's \$5,036,943 present value for plaintiffs' loss of earnings is overstated. These errors make his conclusions based on a negative net discount rate unreliable and inadmissible under *Daubert*, and therefore Dr. Mayor's report and testimony as it relates to negative discount rates should be excluded.

### **LEGAL STANDARDS**

The admissibility of expert testimony is governed by Federal Rule of Evidence 702:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Rule 702 requires district court judges to act as gatekeepers and to screen expert testimony for both reliability and relevance. *Daubert*, 509 U.S. 579. The objective of the Court's gatekeeping function is "to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that

characterizes the practice of an expert in the relevant field.” *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 152 (1999). The Court should exclude opinions that are neither scientifically reliable nor relevant according to the standards for admissibility set out in *Daubert* and FED. R. EVID. 702.

Under Rule 702’s first prong – reliability – district courts must determine whether the expert’s testimony reflects “scientific knowledge,” whether the expert’s findings are “derived by the scientific method,” and whether the expert’s work product amounts to “good science.” *Daubert*, 509 U.S. at 590, 593. Testimony based upon “subjective belief,” “unsupported speculation,” and untested hypothesis must be excluded. *Id.* at 590. In screening for reliability, the Court is instructed to consider four factors:

- (1) *Testing* – Whether the expert’s theory can be, and has been, tested;
- (2) *General Acceptance* – Whether the theory, technique, or methodology is generally accepted in the relevant scientific community;
- (3) *Peer Review* – Whether the theory or technique has been subjected to peer review and publication; and
- (4) *Rate of Error* – Whether the technique or methodology has an acceptable known or potential rate of error.

*See id.* at 593-94. These four factors are not exhaustive or definitive; the Court has “wide discretion both in deciding how to assess an expert’s reliability and in making a determination of that reliability.” *Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1233 (10th Cir. 2004). “If any step renders [an expert’s] opinion unreliable – either in the choice of methodology or its application – his opinion is inadmissible. *Alexander v. Smith & Nephew, P.L.C.*, 98 F.Supp.2d 1310, 1316 (N.D. Okla. 2000) (citing *Mitchell v. Gencorp Inc.*, 165 F. 3d 778, 782 (10th Cir. 1999)).

Under the second prong of Rule 702 – relevance – district courts must ensure that the proffered expert testimony is “relevant to the task at hand,” *i.e.*, that it logically advances a

material aspect of the proposing party's case. *Daubert*, 509 U.S. at 597. This prong, referred to as "fit," requires the Court to "look at the logical relationship between the evidence proffered and the material issue that evidence is supposed to support to determine if it advances the purpose of aiding the trier of fact." *Bitler*, 400 F.3d at 1234. "[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion offered." *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

As the proponent of dubious scientific evidence, Plaintiffs bear the burden of demonstrating the admissibility of the proffered evidence. *See Daubert*, 509 U.S. at 592, n.10; *Ingram v. Solkatronic Chem., Inc.*, No. 04-CV-287, 2005 WL 3544244 (N.D. Okla. Dec. 28, 2005).

### **ARGUMENT**

#### **Dr. Mayor's Reliance on Unrepresentative Rates of Wage Growth and the Application of a Negative Net Discount Rate Render His Conclusions Unreliable.**

Dr. Mayor's most significant error relates to the manner in which he calculated the net discount rate based on historical interest rates and wage growth going back to 1947. Dr. Mayor relied on the historical experience of interest rates and wage growth starting in 1947. Mayor Dep. at 75:24-76:2. During this time, cost of living and wage increases were higher than the interest yield on safe investments by about one percent. Mayor Dep. at 76:2-11. While courts have recognized the theoretical possibility that the rate of inflation could exceed the interest return on safe investments, courts have found the period from 1954 to 1984 (a time period included in Dr. Mayor's analysis) to be an "unrepresentative timespan," *Trevino v. United States*, 804 F.2d 1512, 1518 (9th Cir. 1986), further, that the years between 1974 through 1982

were “aberrational years,” when oil prices tripled, inflation was in the double-digits, and the years were the “most recession-plagued nine years since the Great Depression.” *Id.* (quoting Formuzis & Pickersgill, *Present Value of Economic Loss*, Trial, Feb. 1985, at 22, 23) (internal quotations omitted).

Further casting doubt on the reliability of Dr. Mayor’s methods, the Ninth Circuit cited a study on the relationship between inflation and interest on safe investments: “[y]ields on treasury bonds have stayed slightly ahead of the rate of inflation during the past 32 years [1947-78] (4.4 percent vs. 3.6 percent). This means that the real return on treasury bonds was 0.8 percent.” *Id.* (citing Sherman, *Projection of Economic Loss: Inflation v. Present Value*, 14 CREIGHTON L. REV. 723, 732 (1981)). This statement is in direct contradiction to Dr. Mayor’s unsupported assertion that inflation outstripped interest rates on safe investments going back to 1947. Mayor Dep. at 75:24-76:11, 77:14-18. Dr. Mayor provided no sources or documents showing his calculations in support of his negative discount rate conclusions:

Q So who figured that 1 percent negative discount rate? Did you figure that, or is that from a source that you relied upon?

A (Dr. Mayor) No, I – I figured it out by just going to government data and looking at the average return on Treasury bills over that period of time and looking at the average rate of growth and ways of comparing the two. That’s what has to be done.

Mayor Dep. at 79:14-21. Dr. Mayor’s opinion is nothing more than impermissible *ipse dixit* without support and evidence of his method.

Dr. Mayor compounded the error of relying on aberrational years by applying a negative net discount rate based on the unrepresentative wage increases and interest rates to determine present value. In reaching the present value range of \$5,036,943, Dr. Mayor overstated the present value of the lost earnings by using an unreliable “minus” one as the net

discount rate. Significantly, courts have held that a negative discount rate relies on assumptions not generally accepted by economists and courts. *Trevino*, 804 F.2d at 1517. Typically, awards based on income streams spread over time are discounted to present value to account for the fact that a plaintiff will invest a lump sum payment and earn income from the investment - not that the lump sum will lose money. *See id.* (citing *Jones & Laughlin Steel Corp. v. Pfeifer*, 462 U.S. 523, 536-37 (1983)); *Hoskie v. United States*, 666 F.2d 1353, 1355 (10th Cir. 1981).

Upon examination of numerous economic studies, the U.S. Supreme Court provided guidance on the issue of economic predictions and discount rates, and granted trial courts broad discretion if they applied net discount rates of one to three percent stating, “we do not believe a trial court . . . should be reversed if it adopts a [discount] rate between 1 and 3% . . . .” *Id.* at 1519 (quoting *Jones & Laughlin Steel Corp.*, 462 U.S. at 548-49); *see Nunsuch v. United States*, 221 F.Supp.2d 1027, 1037 (D.Ariz. 2001). Likewise, the Tenth Circuit later recognized that “most courts assume that the net discount rate will be in the range of one to three percent.” *Hull v. United States*, 971 F.2d 1499, 1511 (10th Cir. 1992) (affirming discount rate of 1.64 percent accounting for inflation and investment interest before adding in income growth rate unrelated to inflation) (internal citations omitted).

The Tenth Circuit in a medical malpractice action, conducted an extensive review of decisions from across the country where courts applied discount rates. *Hoskie*, 666 F.2d at 1355-57. In those cases that made allowances for inflation and interest rates, the courts’ suggested discount rates ranged from 1.5 percent to 7 percent. *Id.* at 1356 n.2. Of the approximately 19 cases the court reviewed, **no** cases employed a negative discount rate. *Id.* The *Hoskie* court in reviewing a discount rate for loss of future earnings also affirmed the application of a net discount rate of 3.5 after applying a 6 percent rate of wage inflation and a 9.5 percent



discount rate for investment growth. *Id.* at 1355-56; *see also O’Keefe v. United States*, 490 F.Supp. 79, 84 (W.D.Okla. 1980) (affirming a 2 percent discount rate that accounted for interest rates and inflationary factors in reducing future disability payments).

The Tenth Circuit has always seemed to recognize that in assessing damages for loss of future earnings, “a trier of fact must reduce a lump sum award to its present value.” *Hoskie*, 666 F.2d at 1355 (emphasis added); *see S. Pac. Co. v. Klinge*, 65 F.2d 85, 87 (10th Cir. 1933) (agreeing jury was properly given task of determining the rate of interest - ranging from two to eight percent - a lump sum payment could reasonably be expected to earn from safe investment in order to compensate for a loss of \$2,400 a year). Furthermore, awards based on income streams are usually discounted to present value to account for the fact that by receiving the money in a lump sum, the plaintiff will “invest the sum and earn additional income from the investment.” *Trevino*, 804 F.2d at 1517.

In contrast, the Tenth Circuit’s consideration of the effect of wage inflation on the lump sum payment is relatively recent. The question of whether to give effect to the influence of inflation on a plaintiff’s past or future earnings was an issue of first impression for the Tenth Circuit in *Steckler v. United States*. *Steckler*, 549 F.2d 1372, 1376 (10th Cir. 1977) (in rejecting the contention there should be an increase in a lump sum award based on anticipated inflation, the trial court noted that neither the U.S. Supreme Court nor the Tenth Circuit had spoken definitively on the issue). The *Steckler* court noted that the majority of courts held that in calculating damages for loss of future benefits, there is a reduction of future benefits to present value, “but the effects of inflation on future benefits are not to be considered.” *Id.* at 1377 (internal citations omitted). The *Steckler* court did eventually approve of the trier of fact taking

into account estimated changes in the purchasing power of money, but only while also discounting the “ultimate inflated sum” so as to reduce it to its present value. *Id.* at 1378.

The case law reflects that a negative net discount rate is an anomaly. In a practical sense, it is also antithetical to the entire concept of the time value of money and basic economic principles. Applying Dr. Mayor’s negative net discount rate means the present value of any future lost earnings is a negative number; in order to compensate plaintiffs for future loss of earnings at this range, Defendants would actually have to pay the plaintiffs more than the \$14,900 annual loss of earning potential. *See* Mayor Rep. Tables 1-7, column 4. In short, according to Dr. Mayor’s range setting \$5,036,943 as the present value of the plaintiffs’ lost earnings, the value of money is actually shrinking over time. The idea that putting money away in the “safest and best” interest bearing investment – such as a U.S. Treasury bill, savings account, or U.S. savings bond - would cause a person to lose money defies logic. If this were the case, it is highly unlikely there would be, as Dr. Mayor mentioned, “an awful lot of people holding” T-notes, and certainly not enough to underwrite “something like \$7 trillion worth of government debt . . . .” Mayor Dep. 133:20-25.

Dr. Mayor’s conclusions and opinions based on the use of a negative net discount rate must be excluded under *Daubert* and Rule 702. Dr. Mayor’s use of the negative discount rate and reliance on inflationary trends going back to 1947 is bad science and has been recognized as unreliable on multiple occasions. Courts have recognized the fallacy of applying a negative net discount rate and that negative discount rates are not generally accepted by economists and courts. *Trevino*, 804 F.2d at 1517. But courts have instead recognized that discount rates between one and three percent are the norm. *Id.* at 1519 (citing *Jones & Laughlin Steel Corp.*, 462 U.S. at 548-49). Additionally, the use of the years from 1954 through 1984

were deemed an “unrepresentative timespan” and “aberrational years” for purposes of determining a net discount rate, *Trevino*, 804 F.2d at 1517, and thus Dr. Mayor’s use of the time period 1947 to the present is even more unreliable. And lastly, the basis of Dr. Mayor’s use of a negative discount rate, that inflation outstripped earnable interest, has been refuted. *Id.* Dr. Mayor’s work product using the time period from 1947 forward to support a present value for future lost earnings of \$5,036,943, clearly did not amount to “good science” and must be excluded.

### **CONCLUSION**

Dr. Mayor’s proposed testimony as to the present value of plaintiffs’ future lost earnings being \$5,036,943 and any testimony related to a negative net discount rate does not satisfy the standards for being scientifically reliable or relevant under *Daubert* or Rule 702, and is therefore, not admissible. For these reasons, Defendants respectfully request this Court exclude this opinion.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I do hereby certify that on the 18<sup>th</sup> day of May 2007, I electronically transmitted the foregoing documents to the Clerk of the Court using the ECF System for filing and transmittal of a Notice of Electronic Filing to the following ECF registrants:

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